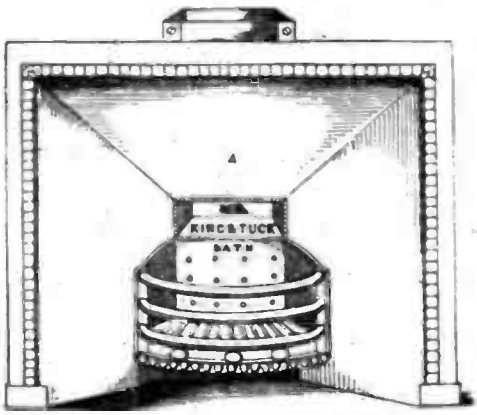
FIRE-GRATES.

On the subject of fire-grates, and warming and ventilating, we shall have a great deal to say; and, in truth, a great deal requires to be said. Not builders alone, but the whole community, require to be aroused to an attentive consideration of this subject. We put the matter in a very homely way to ourselves the other day, as we sat over a raging little coal-consumer of the usual class,—for of consumption there was a large and unreasonable amount, but of heat thrown forward into the room, an inversely small proportion. We argued in this way:—Suppose we were to observe a person engaged in eating his dinner, who with every other mouthful so blundered it as to drop it on the floor under the table; would it not disgust us with his extravagance and wastefulness of food? Yet we see an equally extravagant and wasteful process going on every day and every hour of the day, in an article of as much costliness and almost as much consequence—FUEL. Not one-half alone of the heat and matter of heat fly up our chimneys, but a much larger proportion, so that the waste is worse than the supposed case of the slobbering wasteful eater, and we know not why it should not be regarded as equally disgusting. We hear sometimes of calculations as to the probable duration of our coal-fields, and occasionally some croaking as to an anticipated exhaustion, all which is very ridiculous to any one who opens his eyes to look beyond his nose, and sees the progress of chemical science promising almost to dispense with coals altogether; but it really is a monstrous absurdity to see for every three shillings' worth of coals consumed in our ordinary fire-places, two shillings' worth wasted, as if merely to warm the chimney and create an atmosphere of smoke and filth in our crowded cities. It is time these things were rectified. We have pleasure in extracting the following from the *Mechanics' Magazine*.

"Sir,—Your correspondent R. W. T. expresses a desire to see stove-grates constructed upon better principles than those in general use, in order that more perfect combustion may be attained; and another, T. H. B., gives a description of a grate most likely to carry out R. W. T.'s wishes. T. H. B.'s suggestions are very correct, though I presume they are founded more on general considerations of fitness than on actual observation. About a year ago I constructed a register stove-grate, which seems to me (with submission) to carry out R. W. T.'s views more completely than that of T. H. B., and I have since had many unquestionable proofs of its efficiency. I am, therefore, induced to send you a description of the same, for the information of your correspondent, and also of your many other intelligent readers.

"Fig. 1, of the accompanying engraving, shews my stove-grate, which, in general appearance, is similar to the usual register grates; but will be found, on examination, to differ from them in the deepness of the bevelled sides and top, in the smallness of the aperture to take off the smoke, and in this aperture being situated at the back, immediately over the fire, and having a tube to convey it to the chimney. I was induced to construct this grate to carry off more perfectly the smoke into the chimney, and thereby cure what is generally called a 'smoky chimney;' and this it does with more certainty than any grate I have ever seen. It produces also the more perfect combustion desired by R. W. T., whilst it fully proves the correctness of the statement made by R. H. B., viz., 'that a stove-grate of this description will not require more than one-half the usual consumption of coal, with a comfort not shewn in the use of any others.' It is not necessary, however, to bring them out beyond the chimney, as recommended by T. H. B.; for it may be fixed in the usual place, within the chimney-piece. The heat reflected by the sides will be found quite sufficient for warming a room; and by leaving the back free from the masonry, an air-chamber would be formed, whence warm air might be conveyed in tubes to heat other apartments of a building. By a simply-arranged balanced sliding plate, the flue is perfectly closed, to prevent the return smoke from other chimneys.

"As the opening for the smoke is small, it may be asked, 'how is the chimney to be swept?' I answer by stating, that the bevelled top plate, marked A, is made to be lifted off, thereby giving a much larger opening, and greater facility for sweeping by machinery than other grates.



"In conclusion, I would observe, that the engraving, fig. 2, shews the same plan of construction applied to a common grate with hobs. I registered this under the name of 'King's Calorific Smoke Conductor,' as applicable to all kinds of grates. Rather a fine name, you may be ready to say; but, as it is intended to conduct the smoke horizontally into the chimney, and as it does this most effectually from the conductor or tube being heated, I think you will admit it is comprehensible, and not very inappropriate.

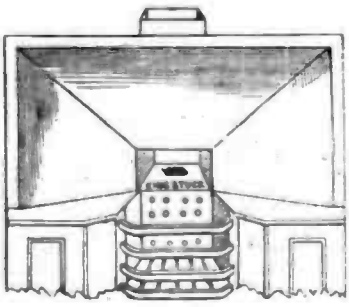
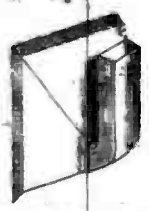


Fig. 3.



"Fig. 3 shews a side view, exposing the flue. This may be made of thin sheet-iron, and applied with great effect, at a little cost, to grates already fixed.

"The stove, fig. 1, is, however, the most perfect of all, for diffusing heat with a small portion of fuel, and carrying off the smoke arising from the same.

"I am, Sir, your obedient servant,

"Bath, December 3, 1842." "S. KING.

We have many instances at our hands of improvements in fire-grates, which we shall deem of importance to communicate from time to time, and will thank all those who have turned their attention to such subjects to enable us to do the justice we desire to their ingenuity.

LIFE ASSURANCE.

We have made some progress in preparing a series of articles on this very important subject, considering that the advantages and consolations it is capable of diffusing throughout society are yet but imperfectly understood; when that shall be the case, the business of assurance on lives, large as it may be at present, will be doubled; for a large portion of the savings of the middle and mechanical classes will be poured into the aggregate funds of the offices for this, and other purposes of which the contingency of life is the main feature.

Not to anticipate, prematurely, our own mode of stating the question, as between the offices established and the public, yet we are glad of any ground upon which we can speak favourably of the adaptation of the system to particular cases, or of the extension of its usefulness in a general sense. Most of the offices stipulate for lives rather above than below the average standard of health; but modifications have gradually been introduced, and we think with great advantage, were it on the score of truth alone, and as inducing candour on the one hand, and a judicious exercise of professional judgment on the other.

These remarks occur after a careful reading of the Prospectus of the MEDICAL, INVALID, and GENERAL LIFE ASSURANCE SOCIETY, who propose assurances on lives in an ill, or even dangerous, state of health; and thus participation in the system appears extended to the utmost limits of which it admits. Neither is the proposal a rash one, the data being given, and the deductions are at once convincing and satisfactory. We are here, it is true, on new ground, and experience would be wanting, were it not compensated by the high standing and professional reputation of those at the head of the list of presidents and directors: such, indeed, must be the opinion of the proprietary at large, of this society, whose property and good names are pledged for the fulfilment of its contracts.

The general question of the maximum rate of premium that should be required on average lives must shortly be divested of all obscurity; it is as tangible, and capable of being fashioned to meet the various contingencies included in the terms "LIFE ASSURANCE AND ANNUITIES," as a piece of timber, to shape and dimensions by handicraft labour. The able exposition of the MEDICAL AND INVALID SOCIETY shews that it also proceeds upon data, to which only a society so constituted could have ready access; its premiums being declared from the average rate of mortality prevailing under the various phases which acute and chronic diseases assume. On the score of SCIENCE, we therefore consider this society entitled to confidence; while COMMERCIALLY it has the strong claim of open and fair dealing, and in this way, not only the names, but the residences, of the parties entrusted with the management are given. This is an unfailing test of the respectability of a public body, and is especially required from societies undertaking the assurance of lives.

To learn how to use PDF Compression and OCR visit our website